CLAIMS

What is claimed is:

- 1. A bias circuit to bias a Doherty amplifier having a carrier amplifier and peaking amplifier, the bias circuit comprising:
- a current mirror circuit comprising an output electronically connected to the carrier amplifier;
 - a scaling/level shifting circuit comprising an input electronically connected to the current mirror circuit; and
- a voltage buffer having an input electrically connected to the scaling/level shifting circuit and an output electrically connected to the peaking amplifier.
 - 2. The bias circuit of claim 1, wherein the current mirror comprises a reference device that is electrically connected to the carrier amplifier to form a control current mirror.

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- 3. The bias circuit of claim 1, wherein the current mirror comprises a reference device and a voltage follower having a low output impedance electrically connected to an input of the reference device.
- 4. The bias circuit of claim 3, wherein the reference device is electrically connected to the carrier amplifier to form a control current mirror.

- 5. The bias circuit of claim 1, wherein the current mirror comprises a voltage follower having a low output impedance electrically connected to the input of the scaling/level shifting circuit.
- 6. The bias circuit of claim 5, wherein the current mirror further comprises a reference device having an input electrically connected to the low output impedance of the voltage follower.
- 7. The bias circuit of claim 6, wherein the reference device is electrically connected to the carrier amplifier to form a control current mirror.
 - 8. The bias circuit of claim 1, wherein the scaling/level shifting circuit further comprises at least two resistors disposed as a voltage divider.
- 9. The bias circuit of claim 1, wherein the scaling/level shifting circuit further comprises an amplifier having a voltage offset source as an input.
 - 10. A Doherty power amplifier system comprising:
 - a Doherty amplifier having a carrier amplifier and peaking amplifier; and
- 20 a bias circuit comprising
 - a current mirror circuit comprising an output electronically connected to the carrier amplifier,

a scaling/level shifting circuit comprising an input electronically connected to the current mirror circuit, and

a voltage buffer having an input electrically connected to the scaling/level shifting circuit and an output electrically connected to the peaking amplifier.

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- 11. The system of claim 10, wherein the current mirror comprises a reference device that is electrically connected to the carrier amplifier to form a control current mirror.
- 12. The system of claim 10, wherein the current mirror comprises a reference device and a voltage follower having a low output impedance electrically connected to an input of the reference device.
- 13. The system of claim 12, wherein the reference device is electrically15 connected to the carrier amplifier to form a control current mirror.
 - 14. The system of claim 10, wherein the current mirror comprises a voltage follower having a low output impedance electrically connected to the input of the scaling/level shifting circuit.

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- 15. The system of claim 14, wherein the current mirror further comprises a reference device having an input electrically connected to the low output impedance of the voltage follower.
- 5 16. The system of claim 15, wherein the reference device is electrically connected to the carrier amplifier to form a control current mirror.
 - 17. The system of claim 10, wherein the scaling/level shifting circuit further comprises at least two resistors disposed as a voltage divider.

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- 18. The system of claim 10, wherein the scaling/level shifting circuit further comprises an amplifier having a voltage offset source as an input.
- 19. A process to bias a Doherty amplifier having a carrier amplifier andpeaking amplifier, the process comprising:

maintaining a constant current in a current mirror as a function of a base voltage at a first node;

passing the constant current from a current mirror circuit to the carrier amplifier;

at least one of scaling and shifting the base voltage to produce a second voltage at a second node by employing a scaling/level shifting circuit comprising an input electronically connected to the current mirror circuit; and

passing the second voltage through a voltage buffer to the peaking amplifier.

20. The process of claim 19, wherein passing the constant current from a current mirror circuit to the carrier amplifier includes mirroring the constant current through a control current mirror, wherein the control current mirror comprises a reference device within the current mirror that is electrically connected to the carrier amplifier.

21. A circuit, comprising:

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a linear amplifier bias circuit comprising first means for adjusting for process variations and environmental variations; and

a non-linear amplifier bias circuit comprising second means for adjusting for process variations and environmental variations, wherein the second means for adjusting for process variations and environmental variations is a function of the first means for adjusting for process variations and environmental variations.

22. The circuit of claim 21, further comprising

a linear amplifier coupled to the linear amplifier bias circuit, wherein

the linear amplifier bias circuit comprises a reference device that is disposed in relation to the linear amplifier so as to comprise the first means for adjusting for process variations and environmental variations.

- 23. The circuit of claim 21, wherein the first means for adjusting for process variations and environmental variations comprises a current mirror.
- 24. The circuit of claim 21, wherein the first means for adjusting for process variations and environmental variations comprises means for producing a first voltage and the second means for adjusting for process variations and environmental variations includes means for producing a second voltage that is a function of the first voltage.
- 25. The circuit of claim 21, wherein the linear amplifier bias circuit comprises a voltage follower coupled to a reference device, the circuit further comprising:

 a carrier amplifier coupled to the voltage follower.
- 26. The circuit of claim 25, wherein the non-linear amplifier bias circuit comprises a voltage buffer coupled to a scale/level shift circuit, the circuit further comprising:
 - a non-linear amplifier coupled to the voltage buffer, wherein the scale/level shift circuit is coupled to the voltage follower.
- 27. The circuit of claim 26, wherein the linear amplifier is configured to function as a carrier amplifier and the non-linear amplifier is configured to function as a peaking amplifier in a Doherty amplifier.

28. The circuit of claim 27, wherein the linear amplifier bias circuit is a class AB amplifier bias circuit and wherein the non-linear amplifier bias circuit is a class C amplifier bias circuit.